Attachment 3

HST Merced to Fresno Section, Aquatic Sites and Waters of the United States Potentially Affected by Alternatives Considered

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This technical memorandum (TM) provides information intended to supplement Merced to Fresno Checkpoint B materials provided to the U.S. Environmental Protection Agency (USEPA) and United States Army Corps of Engineers (USACE) (collectively, "the agencies") on January 6, 2011. This TM is intended to provide a landscape-level preliminary functional assessment for important elements of the landscape such as existing land use, habitat connectivity, existing and planned restoration projects, and the distribution of wetlands, other waters of the United States (WOUS), and vernal pool resources.

This TM and its associated figures and tables provide the supplemental information requested by the agencies. Due to the number and formatting of the figures and tables, they are provided as separate attachments.

Resource Mapping and Characterization Approach

Resource mapping and characterization was largely completed following direction provided in the Central Valley Biological Resources and Wetlands Survey Plan, prepared by the Merced to Fresno, Fresno to Bakersfield, and San Jose to Merced section regional consulting teams (last revised in January 2010).

Broad land use characterization and habitat mapping was completed within 1,000-foot buffers of the project footprint (termed the Habitat Study Area, or HSA) (see Figures 2a, 2b, 2c). Characterizations were initially made by interpretation of aerial images, and were supplemented and verified (ground-truthed) in spring 2010 and spring 2011 during field visits to the accessible properties. National Wetlands Inventory (NWI) and Holland (vector) data were used for the initial mapping effort. These data were later augmented during field surveys. Aquatic features within a 250-foot buffer of the footprint (termed the Wetland Study Area, or WSA) were initially identified and mapped by aerial interpretation, with accessible properties within the WSA later ground-truthed. Where access was permitted,

formal wetland delineations were completed for aquatic features potentially regulated under Section 404 of the Clean Water Act, and for vernal pool features. In the areas where access was permitted, field staff also assessed potential water crossing locations and characterized whether an aquatic feature was natural or constructed, among other site attributes.

Aerial imagery from February and March 2007 was used to complete the initial mapping noted above. At the time that the initial resource mapping was completed, this image set was the best (highest resolution and complete with respect to the Merced to Fresno Section) available. The current *Merced to Fresno Section Wetland Delineation Report* (WDR) (Authority and FRA 2011a) summarizes precipitation and hydrology associated with the imagery used. As described in the WDR, precipitation during the months preceding February 2007 was below average (51% of normal). In contrast, precipitation preceding the verification fieldwork completed in January and February 2011 was above normal (+122% of normal), with rain occurring during the time that the fieldwork was taking place. Relative to the 2007 imagery interpretation, fieldwork completed in January and February 2011 documented an increase of 21.23 acres of potential WOUS along the UPRR/SR 99 Alternative, an increase of 70.01 acres of potential WOUS along the BNSF Alternative, and an increase 30.43 acres of potential WOUS along the Hybrid Alternative. All of these increases are within the WSA. See the WOUS mapbook (Figure 1), which is provided under separate cover.

WOUS identifications, characterizations, and delineations (where access was permitted) were completed by the regional consultant team (AECOM and CH2M HILL) on the following dates:

- November 2009 (WOUS reconnaissance surveys)
- December 2009 and May 2010 (natural drainage surveys)
- April/May 2010 and January/February 2011 (WOUS delineations and assessments)

The information summarized above is taken from the current version of the WDR.

Natural Features Associated with the Merced to Fresno HST Section Alternatives

This section summarizes resources and land uses along each of the Merced to Fresno Section alternatives.

Terrestrial Land Cover Types and Habitats

Land cover types and habitats were mapped within the HSA. Nomenclature largely followed the *Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). Agricultural land uses included orchards, vineyards, field crops, row crops, fallow and idle agricultural fields, dairies, and pastures. Agricultural lands overall constitute 65% of the cumulative HSA for the UPRR/SR 99, BNSF, Western Madera, UPRR/BNSF Crossover, and Hybrid alternatives. Developed land uses (21% of the cumulative HSA) comprise barren, urban, commercial/industrial, and transportation corridors. Natural and semi-natural land cover types included a number of terrestrial and aquatic habitat types, which constitute 14%

of the cumulative HSA. See Figures 2a through 2c, which depict the field-surveyed habitat maps for the UPRR/SR 99, BNSF, and Hybrid alternatives; this detail was not surveyed for the Western Madera or the UPRR/BNSF Crossover alternatives because these alternatives did not meet basic purpose and need objectives to remain adjacent to transportation corridors. Detailed land cover types and habitat information are available in the *Biological Resources and Wetlands Technical Report* prepared for the HST Merced to Fresno Section (Authority and FRA 2011b).

Aquatic Habitats

Potential WOUS, including wetlands, were inventoried and characterized along the HST Merced to Fresno Section during fieldwork completed in 2009, 2010, and 2011. As previously noted in the *Resource Mapping and Characterization Approach* section of this TM, aerial imagery was interpreted initially to identify potential aquatic features within the defined WSA. Vernal pools were also included in this mapping and field assessment process.

As background to understand the existing conditions, and based on discussions with the irrigation districts within the project area, virtually all natural waterbodies are used to convey irrigation flows, and both natural channels and irrigation canals are used to convey excess storm runoff that is not otherwise retained. In general, municipal stormwater detention ponds discharge to the canal network, including natural waterbodies, when the detention pond capacity is exceeded. The natural waterbodies include diversions, bypasses, and other features to manage irrigation flows and flood flows. Portions of natural channels are periodically "cleaned" to remove vegetation and sediment buildup to maintain channel capacity for irrigation deliveries. Flows in the natural waterbodies are also heavily influenced by upstream storage reservoirs which are managed for both flood control and irrigation operations.

Table 1 summarizes the extent (in acres) of WOUS and vernal pools identified within the defined WSA along each of the alternatives (UPRR/SR99, BNSF, and Hybrid) and at each of the heavy maintenance facility (HMF) locations being evaluated in the National Environmental Policy Act process. Quantitative information to support a similar level of analysis for the former A3 (Western Madera) and UPRR/SR 99 Crossover alternatives has been derived from existing data sources and aerial maps.

Table 2 presents the same information as Table 1, but reports resource information for the project footprint only. As such, values in Table 1 are intended to support the related 404 permitting effort for the HST MF Section.

The USACE noted during a previous review of this TM that, in some cases, values in Table 1 were less than corresponding values in Table 2. Specifically, this result occurs in association with the Kojima and Fagundes HMF sites. Intuitively, if values in Table 1 are buffered "expansions" of values in Table 2, it would seem that values in Table 1 must be equal to or larger than corresponding values in Table 2. As explained here, this is not always the case (see, for example and specifically, vernal pool acreages at the buffered Kojima HMF site in Table 2 [= 0.51-acre] versus the area of the same resource within the footprint only [= 0.75-acre]). This result is a consequence of how the GIS calculates resource areas, as explained in the following paragraph.

Figure 3 graphically shows, using the Kojima HMF site as an example, how resource values in Table 1 may be less than corresponding resource values in Table 2. When one facility footprint (in this example, the BNSF alignment alternative) occurs close to (within 250 ft) another facility footprint (in this example, the Kojima HMF site), wetland study area buffers overlap. First, and to be clear, resource acreages reported within facility footprints in Table 2 are accurate, and do not vary with facility adjacency circumstances. That is, the Kojima HMF footprint intersects 0.75-acre of vernal pools and other seasonal wetlands (Table 2).

Adjacency circumstances only affect buffered resource values reported in Table 1. For example, because the BNSF alignment is adjacent to the Kojima HMF site, buffers placed on these facility footprints overlap adjacent facility footprints. Specifically, the buffer of the Kojima footprint overlaps the mainline footprint, and the buffer of the mainline footprint overlaps the HMF footprint. In this somewhat uncommon circumstance, resources are by decision rule allocated to the mainline buffer first and the HMF buffer second. This buffer allocation also results in "debiting" resource areas from the HMF footprint (but, only as reported in Table 1).

Here, then, are salient results using the example shown in Figure 3:

- The Kojima HMF footprint intersects 0.75-acre of vernal pools and other seasonal wetlands (resources within areas "B" and "C"). This value is reported in Table 2 of this TM.
- Of the 0.75-acre of vernal pools and other seasonal wetlands intersected by the HMF footprint, 0.24-acre is also intersected by the mainline buffer (resources within area "B") and the HMF buffer (resources within area "D". This increment (0.24-acre) is allocated respectively the WSAs of the BNSF alternative total (21.14 to 29.35 acres) and the HMF total (0.51-acre).
- To avoid "double counting" or over-reporting of vernal pools and other seasonal wetlands within the WSA, the reported acreage of these features within the HMF WSA (0.51-acre) is the total of C+D, rather than the total of areas A+B+C+D (since areas A+B were already reported within the WSA of the mainline).

This circumstance also occurs at the Fagundes HMF site due to its proximity to Wyes.In summary, vernal pools and wetlands are more abundant along the BNSF Alternative than the other alternatives; however, a maximum of 5 acres could be affected over 90 to 96 miles (the length of the BNSF Alternative). Acres of impacts on water features are somewhat similar across all alternatives. Interestingly, in a comparison of all the natural waterways crossed (Table 3), the number of crossings depending on the design options and wyes are very similar, each ranging from 21 crossings to a maximum of 28 crossings. The real differences are the context of these crossings. The BNSF, UPRR/SR 99, and Hybrid alternatives are more likely to cross in locations adjacent to an existing transportation corridor (railroad and/or highway) than the Western Madera or UPRR/BNSF Crossover alternatives. Constructed basins, constructed canals/drains, and natural watercourses (creeks and rivers) are more abundant near the Castle Commerce Center HMF location relative to other prospective sites. Freshwater marsh habitat and natural watercourses are also relatively abundant at the Gordon-Shaw and Kojima Development HMF locations.

Natural and Constructed Watercourses

The watercourses in the Merced to Fresno Section intersected by an alternative (alignment or HMF) were classified into four categories: (1) natural stream or river; (2) open canal; (3) open drain, or (4) culverted/closed drains. In total, 81 natural drainages, 162 open canals, 11 open drains, and 4 culverted drains could be crossed by one or more of the HST alternatives.

Landscape Linkages and Connectivity

In 2010, the California Department of Transportation and the California Department of Fish and Game (CDFG) collaboratively published *The California Essential Connectivity Project: A Strategy for Conserving a Connected California* (Spencer et al. 2010). This project was commissioned in response to the passage of AB 2785.

The Essential Connectivity Project produced maps, data, and mitigation guidelines for Essential Connectivity Areas (ECAs), which were defined as areas essential for ecological connectivity between natural landscape blocks. Using geographic information system (GIS) modeling processes, Spencer et al. (2010) identified the Eastman Lake-Bear Creek ECA (Figures 3 through 7), which largely follows the spatial arrangement of, and functionally subsumes, the Madera-Merced Linkage reported by Penrod et al. (2001) and the Sandy Mush Road area "corridor" advocated within the *Recovery Plan for Upland Species of the San Joaquin Valley* (USFWS 1998). The Eastman Lake-Bear Creek ECA, which is the only ECA that actually crosses the HST alignments, generally follows the east-west aligned drainage corridors of Deadman Creek and Dutchman Creek from Eastman Lake west to the San Joaquin River. To date, there has been no focused management plan developed for the Eastman Lake-Bear Creek ECA.

Six other identified ECAs are located in the vicinity (north, west, and south) of the Eastman Lake-Bear Creek ECA. These are: (1) Flat Top Mountain-Hunter Valley Mountain ECA; (2) Ash Slough-Merced National Wildlife Refuge ECA; (3) Lone Willow-Ash Slough ECA; (4) Fresno River-Lone Willow ECA; (5) Gravelly Ford Canal-Fresno River ECA; and (6) Gravelly Ford Canal-Lone Willow ECA (see Figures 3 through 7). With the exception of the Flat Top Mountain-Hunter Valley Mountain ECA, all additional ECAs generally follow the north-south alignments of the Eastside Bypass and the Chowchilla Bypass between the Chowchilla River and Cottonwood Creek.

Reserves, Natural Areas, and Restoration Projects

Three managed habitat areas that occur within the Merced to Fresno Section HSA are as follows:

- The Great Valley Conservation Bank intersects with the east of Le Grand design options of the BNSF Alternative, and is located southeast of Le Grand near Santa Fe Avenue and Marguerite Roads. This 1,067-acre bank site includes existing vernal pools and California annual grassland within designated critical habitat for San Joaquin Valley Orcutt grass and vernal pool tadpole shrimp. Special-status species that are found on either or both habitats include California tiger salamander, vernal pool tadpole shrimp, vernal pool fairy shrimp, western spadefoot, western burrowing owl, and San Joaquin

kit fox. The bank is currently active. No water crossing in the Merced to Fresno Section is located within the Great Valley Conservation Bank.

- Camp Pashayan (within the San Joaquin Ecological Reserve) is a 31-acre property located just east of the UPRR bridge on the south side of the San Joaquin River in Fresno; this property is crossed by each of the five HST alternatives. This property was acquired by the California Wildlife Conservation Board through a donation from the Boy Scouts of America, which continues to use constructed facilities on the property. The adjacent property is owned by the San Joaquin River Parkway and Conservation Trust and is part of the San Joaquin River Parkway. Sensitive species such as Sanford's arrowhead, white-tailed kite, and loggerhead shrike are reported to occur on the property. Riparian habitat along the San Joaquin River is adjacent to the property. All HST alternatives would cross the San Joaquin River at the same location, intersecting Camp Pashayan property.

- CDFG manages an approximately 4.9-acre property set aside for the purpose of wetland conservation. This property is currently called the Le Grand Unit; however, it does not have an official designation by CDFG. The Le Grand Unit is intersected at two locations by Mariposa Creek crossings along the BNSF Alternative.

- San Joaquin River Restoration Program: The San Joaquin River Restoration Program (SJRRP) is intended to implement a settlement agreement over federal court litigation entitled *Natural Resources Defense Council, et al. v. Kirk Rodgers, et al.* in the United States District Court, Eastern District of California. NOAA Fisheries Service has designated most water bodies that were historically accessible to Chinook salmon as essential fish habitat. This designation includes the Middle San Joaquin-Lower Chowchilla hydrologic unit (HU 18040001; Pacific Fisheries Management Council 2003). The Merced to Fresno Section HST Project occurs in this hydrologic unit and crosses it at the San Joaquin River adjacent to SR 99 and the UPRR railway. The SJRRP is a comprehensive long-term effort to restore flows to the San Joaquin River from Friant Dam to the confluence of the Merced River and restore a self-sustaining Chinook salmon fishery in the river while reducing or avoiding adverse water supply impacts from restoration flows. Spring-run Chinook salmon are scheduled to be reintroduced to the San Joaquin River no later than December 2012 (Reclamation et al. 2010). Congress authorized implementation of the settlement agreement through the San Joaquin River Restoration Settlement Act (H.R. 146, Title X, Subtitle A, Part 1). All HST alternatives would cross the San Joaquin River at the same location.

  Currently, there are no plans to modify the San Joaquin River channel in the area of the SR 99 San Joaquin River crossing. The HST crossing would be designed with the planned increase in river flows and would not conflict with the goals of the restoration flows. However, the location of the project crossing is in Reach 1, which has been identified as the reach where spawning may occur. The program-level environmental document on the SJRRP is not yet available. The project crossing near the existing SR 99 would not be in conflict with the SJRRP or any actions under the SJRRP. The Authority would continue to coordinate with SJRRP and respect regulations regarding construction during the spawning and migration season.

Functional Assessment Summary

Function and value charts similar to those prepared for the Fresno to Bakersfield HST Section (referred to by USEPA as three-dimensional graphs during the March 14, 2011, conference call) were prepared for the Merced to Fresno aquatic resources, but due to relatively limited property access (about 18% access by parcel, which resulted in 24% of the total acreage or 5,283 acres), the summary statistics do not generalize to aquatic resources within the WSA. As such, functional assessments of resources within the Merced to Fresno Section are characterized here more broadly using the elements included within this TM and summarized by water feature crossing in Table 3.

UPRR/SR 99 Alternative

The UPRR/SR 99 Alternative and its related design options cross a total of 18 natural watercourses (streams, creeks, sloughs, and rivers) at 21 to 25 locations (Tables 3). With the exception of the perennial Bear Creek and the San Joaquin River, all of these watercourses are seasonally intermittent or ephemeral. Intact, expansive riparian habitat is relatively rare among all San Joaquin Valley drainages, as most are managed for flood flow conveyance by removing vegetation and grooming channel contours, and many are used by off-highway vehicles for recreation (or both). Land use along the UPRR/SR 99 Alternative is dominantly agricultural, with some associated urban development (see Table 3), and land use encroachment at natural drainage bank tops has resulted in reduced riparian corridor widths.

No designated federal Critical Habitat intersects natural drainage crossings within the UPRR/SR 99 Alternative, but Essential Fish Habitat (EFH) for Chinook salmon is designated within the San Joaquin River at the UPRR/SR 99 crossing. See the *Biological Resources and Wetlands Technical Report* (Authority and FRA 2011b) for a discussion of EFH and how it is regulated. UPRR/SR 99 Alternative crossings of Deadman and Dutchman creeks would be located within the Eastman Lake-Bear Creek ECA, described previously. Camp Pashayan would be intersected by this alternative at its crossing of the San Joaquin River.

As shown in Tables 1 and 3, WOUS (including wetlands) and vernal pool habitats are less abundant along the UPRR/SR 99 Alternative than along the BNSF Alternative. Urban land uses along the existing UPRR corridor have decreased the abundance and functional value of aquatic resources at many locations.

BNSF Alternative

The BNSF Alternative and its related design options cross a total of 18 natural watercourses (streams, creeks, sloughs, and rivers) at 24 to 28 locations (see Table 3). Similar to the UPRR/SR 99 Alternative, most of these watercourses are seasonally intermittent or ephemeral, and most have degraded riparian corridors from intensive agricultural land uses.

Designated federal Critical Habitat for several vernal pool invertebrates intersects the BNSF Alternative crossings of Deadman Creek and the Chowchilla River, and EFH for Chinook salmon is crossed by the BNSF Alternative at the San Joaquin River (as with all alternatives). Camp Pashayan would be intersected by this alternative at its crossing of the San Joaquin

River, and the CDFG Le Grand Unit would be intersected by two crossings of Mariposa Creek. BNSF Alternative crossings of Mariposa Creek, Deadman Creek, Dutchman Creek, Chowchilla River, Ash Slough, and Berenda Slough would be located within the Eastman Lake-Bear Creek ECA.

As shown in Tables 1 and 3, vernal pools and seasonal wetland habitats are more present along the BNSF Alternative than along any other alternative, in part because the BNSF railroad has created barriers for water movement. This alternative would be located downstream, but adjacent to the BNSF Railroad. In general, fewer row crop agricultural fields, more grazed grasslands, and more natural resources of higher value exist along the BNSF Alternative than the other alternatives.

Hybrid Alternative

The Hybrid Alternative and its related design options cross a total of 19 natural watercourses (streams, creeks, sloughs, and rivers) at 22 locations (Table 1 and 3), most of which are seasonally intermittent or ephemeral. Riparian corridors are moderately intact for approximately 50% of these drainages.

Drainage crossing locations within the Hybrid Alternative will not intersect designated federal Critical Habitat, but EFH for Chinook salmon would be crossed by the Hybrid Alternative at the San Joaquin River. Camp Pashayan would be intersected by this alternative at its crossing of the San Joaquin River. Similar to the UPRR/SR 99 Alternative, crossings of Deadman and Dutchman creeks would intersect with the Eastman Lake-Bear Creek ECA.

Wetlands and water features along the Hybrid Alternative are similar in abundance to those found associated under the UPRR/SR 99 Alternative, and the overall functional assessment of resources associated with natural water crossing locations along the Hybrid Alternative is similar to the UPRR/SR 99 Alternative.

Western Madera (A3) Alternative

The A3 Alternative and its related design options cross a total of 17 natural watercourses (streams, creeks, sloughs, and rivers) at 22 to 28 locations (Tables 1 and 3). Similar to other San Joaquin Valley natural drainages, most A3-intersected drainages are seasonally intermittent or ephemeral. Riparian corridors are moderately intact for approximately 50% of these drainages, similar to the Hybrid Alternative. Due to the departure from the UPRR corridor, this alternative crosses the farmlands at a diagonal; therefore, the crossings at these waterways are not aligned or near existing roadway crossings.

Drainage crossing locations within the A3 Alternative will not intersect designated federal Critical Habitat, but EFH for Chinook salmon and Camp Pashayan would be crossed by the A3 Alternative at the San Joaquin River. Similar to the BNSF Alternative, A3 crossings of Deadman Creek, Dutchman Creek, Chowchilla River, Ash Slough, and Berenda Slough would intersect with the Eastman Lake-Bear Creek ECA.

Constructed drains and canals compose a larger portion of the total wetlands and water features along the A3 Alternative relative to other alternatives, reflecting the agricultural land use west of Madera. The overall functional value of resources associated with natural water crossing locations along this alternative is similar to the BNSF Alternative.

UPRR/BNSF Crossover (A4) Alternative

The A4 Alternative crosses a total of 18 natural watercourses (streams, creeks, sloughs, and rivers) at 26 locations (Tables 1 and 3). Most A4-intersected drainages are seasonally intermittent or ephemeral, and few have intact/expansive riparian corridors.

Drainage crossing locations within the A4 Alternative will not intersect designated federal Critical Habitat, but EFH for Chinook salmon and Camp Pashayan would be crossed by the A4 Alternative at the San Joaquin River. Similar to the A3 Alternative, A4 crossings of Deadman Creek, Dutchman Creek, Chowchilla River, Ash Slough, and Berenda Slough would intersect with the Eastman Lake-Bear Creek ECA. This alternative would cross the Chowchilla River three times because of the curvature around the Chowchilla urban boundary.

Wetland and water features crossed by the A4 Alternative are similar in composition and abundance to those crossed by the A3 Alternative. The overall functional value of resources associated with natural water crossing locations along this alternative is similar to the A3 Alternative.

Potential Impacts on Natural Features Associated with the Merced to Fresno HST Section Alternatives

This section quantifies and/or characterizes potential impacts on resources described earlier in this TM.

Potential Impacts on Aquatic Habitats

Potential impacts on WOUS and vernal pools were quantified by overlaying the fall 2010 Merced to Fresno Section footprint (alignment and HMF locations) within the defined WSA and resources identified within the WSA. Table 2 summarizes the extent (in acres) of potential impacts associated with each of the three alternatives currently being analyzed. Quantitative information to support a similar level of analysis for the former A3 (Western Madera) and A4 alternatives does not exist. Tables 1 and 2 present a range of potentially impacted resource areas which capture the several design options associated with an alternative and each of the HMF sites.

In summary, potential impacts on vernal pools and constructed basins are greater (between 4.2 to 5.9 of wetlands within the project footprint) along the 90- to 96-mile BNSF Alternative trackway than any of the other four alternatives (maximum of 2 acres), which all range up to 89 miles of trackway.

Potential Impacts on Watercourses

The number of waterbodies crossed by the Merced to Fresno Section alternatives is summarized in Table 4. As shown in Table 4, the number of canals and ditches crossed is generally higher for more western alignments (A2-UPRR/SR 99 and A3-Western Madera). This appears to be a result of moving from an area higher in the watershed in the east, where conveyance begins with streams, tributaries, and primary diversions, to lower agricultural land where delivery systems branch into irrigation conveyance canals and ditches. The number of natural waterbodies crossed generally decreases as alignments are

straighter (A2) or where a crossover is southern (Hybrid) and the natural waterbody density is relative low relative to alignments that include east-west curves (A1-BNSF and A3-Western Madera) or cross over farther north (A4-UPRR/BNSF Crossover) where the waterbody density is higher.

(The Authority is also preparing a Hydraulics and Floodplains Technical Report (Authority and FRA 2011c), which will show the location of each crossing for the UPPR/SR 99, BNSF and Hybrid alternatives by crossing identification and by natural waterbody crossed. A tentative, preliminary design approach to each crossing (culvert, single-span, multispan, or elevated with piers) will be presented. The alignments for Alternatives A3 and A4 would not be included as these have been screened out prior to development of the Hydraulics and Floodplains Technical Report.)

Potential Impacts on Landscape Linkages and Connectivity

Each alternative considered would cross the Eastman Lake-Bear Creek ECA. The UPRR/SR 99 (A2) and the Western Madera alternatives (A3) would largely avoid impacts on this ECA, with the exception of a small intersection at its northern alignment, but only as they are adjacent to the UPRR/SR 99 corridor. None of the alternatives intersect the five other ECAs parallel to the San Joaquin River and south of the Eastman Lake-Bear Creek ECA.

None of the HST alternatives would modify the channel at the SR 99 San Joaquin River crossing, and the project design would accommodate the increase in river flows that are currently planned under the SJRRP. The HST project crossing is in Reach 1, which has been identified as a location where Chinook salmon spawning may occur. The Authority will continue to monitor the status of the program-level environmental document on the SJRRP, and will coordinate with SJRRP regarding construction during the spawning and migration season.

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